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SmartOnline 208/120V or 240/120V 16kVA 14.4kW On-Line Double-Conversion UPS, N+1, Extended Run, SNMP, Webcard, 14U Rack/Tower, USB, DB9 Serial

MODEL NUMBER: **SU16KRT-1TF**

Highlights

- 16kVA / 16,000VA / 14,400W on-line double-conversion UPS; 0.9 power factor
- 208/120V or 240/120V 60Hz compatibility; 96% Efficient Economy-mode option
- Hot-swap power and battery modules, N+1 fault tolerance at loads up to 8kVA
- USB, RS232 & EPO ports; support for SNMP/WEB and contact-closure card options
- Front panel LEDs with detailed LCD monitoring and control screen
- Expandable runtime with optional external battery packs
- Hardwire input (3 wire); L6-30R, C19, 5-15/20R & 5-15R outlets

Package Includes

- Two SU8000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- One SU6000XFMR2U 208/240V to 120V transformer
- SUPDMB20K parallel PDU with Bypass switch
- 4 post rackmount installation rails
- PowerAlert software and cabling

Description

Tripp Lite SU16KRT-1TF 16,000VA / 16kVA / 14,400 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 14U rack/tower configuration. This system delivers complete N+1 redundancy when used at loads up to 8kVA, and non-redundant operation at loads between 8 and 16kVA. Fault-tolerant auto-bypass prevents unexpected service interruptions during UPS overload or internal fault conditions. Included parallel PDU with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. Enhanced availability, fault tolerance and simple hot-swap replacement options make this UPS ideal for advanced networking applications in data centers, computer rooms, network closets and rugged industrial locations.

Features

- Tripp Lite SU16KRT 16kVA, 16,000VA / 14,400 watt on-line, double-conversion UPS system in 14U total rack/tower configuration
- Unique configuration offers 16kVA non-redundant operation and automatic N+1 redundancy at load levels of 8kVA and under
- Included Parallel PDU with manual bypass switch enables hot-swap replacement of power modules at any supported load level
- Hardwire input; 2 L6-30R (208/240v), 8 C19 (208/240v), 8 5-15/20R (120v) and 4 5-15R (120v) outlets
- Maintains full-time sine wave output within 2% of selectable 200/208/220/230/240V & 120V nominal
- Expandable runtime with optional external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- Battery independent restart
- Highly efficient economy mode option
- Optional SNMPWEBCARD, RELAYIOCARD and RELAYIOMINI interface modules available (RELAYIOMINI requires removal of USB interface module)
- Applications utilizing the optional network communications card require two SNMPWEBCARD accessories (install one per included power module)

- HID-compliant USB interface
- Includes Free PowerAlert monitoring software; PowerAlert LOCAL, PowerAlert NSA and PowerAlert NMS for monitoring up to 250 SNMP-enabled UPS, PDU and other networking devices
- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (6 required)
- Optional 2-9USTAND supports upright tower placement (2 required)
- Supports Emergency Power Off (EPO) via built-in interface
- Front panel LEDs and LCD readout with scroll controls
- LED / LCD display panel rotates for viewing in rackmount or tower configurations
- External battery packs are field replaceable and hot swappable

Specifications

General Info	
RoHS	Y
OUTPUT	
Output Capacity Details	Supports up to 105% load continuously in double conversion mode, 106 to 125% for 1 minute, 126% to 150% for 30 seconds; Loads over 150% trigger immediate bypass mode operation to support loads directly from mains power; Double conversion mode is automatically restored as load levels are reduced to 95% or less
Output Volt Amp Capacity (VA)	16000
Output kVA Capacity (kVA)	16
Output Watt Capacity (Watts)	14400
Output kW Capacity (kW)	14.4
Power Factor	0.9
Crest Factor	3:1
Nominal Output Voltage(s) Supported	120V; 208V; 240V
Nominal Voltage Details	This configuration requires the Power Module be set to 208 or 240V output voltage; included step-down transformer supports 120V output (when the voltage-selection switch on the transformer module is set to match the 208 or 240V power module setting)
Frequency Compatibility	60 Hz
Frequency Compatibility Details	Output frequency regulation +/- 0.05Hz (free running)
Output Voltage Regulation (Line Mode)	+/- 2%
Output Voltage Regulation (Economy Line Mode)	+/- 10%
Output Voltage Regulation (Battery Mode)	+/- 2%
Output Receptacles	(4) 5-15R; (8) 5-15/20R; (2) L6-30R; (8) C19
Output Receptacle Details	Total 120V output is limited to 4992 watts for 208V input and 5760 watts for 240V input. Additional 120V capacity is available by adding a second SU6000XFMR2U step-down transformer.

Output Circuit Breakers	POWER MODULE: Two built-in 30A breakers protect one L6-30R outlet each, Eight built-in 20A breakers protect one C19 outlet each; TRANSFORMER MODULE: Two 15A breakers protect 2 5-15R outlets each, Two 20A breakers protect 4 5-15/20R outlets each
Output AC Waveform (AC Mode)	Pure Sine wave
Output AC Waveform (Battery Mode)	Pure Sine wave
INPUT	
Rated input current (Maximum Load)	88.4A (208V), 76.6A (240V)
Nominal Input Voltage(s) Supported	208V AC; 240V AC
UPS Input Connection Type	Hardwire
UPS Input Connection Description	3 wire single phase input (L1, L2, G)
Recommended Electrical Service	100A @ 208V, or 240V (L1, L2, G)
Input Phase	Single-Phase
BATTERY	
Full Load Runtime (min.)	5.5 minutes (14,400 watts)
Half Load Runtime (min.)	13.5 minutes (7200 watts)
Expandable Battery Runtime	Runtime is expandable with external battery packs
External Battery Pack Compatibility	BP240V10RT3U ; BP240V557C-1PH ; BP240V787C-1PH ; BP240V1037C-1PH ; BP240V1407C-1PH
Expandable Runtime Description	For best results, add external batteries in multiples of two so that both included 8kVA power modules have an equal number and type of connected battery packs
DC System Voltage (VDC)	240
Battery Recharge Rate (Included Batteries)	Less than 6 hours from 10% to 90% (typical, full load discharge)
Battery Replacement Description	Hot-swappable, user replaceable external battery packs
VOLTAGE REGULATION	
Voltage Regulation Description	2% output voltage regulation in standard online, double-conversion mode
Overvoltage Correction	Corrects overvoltages up to 300V
Undervoltage Correction	Corrects undervoltages as low as 100V
USER INTERFACE, ALERTS & CONTROLS	
Front Panel LCD Display	Selectable LCD display with scroll and selection buttons enables UPS control and detailed monitoring options; LED/LCD panel rotates for viewing in rack/tower formats; LCD Display supports ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH and PORTUGUESE (see manual)
Switches	2 Switches control off/on power status and alarm-cancel/self-test operation; 2 additional switches support set and execute scrolling LCD functions; bundled PDU includes bypass switch to enable hot-swap UPS power module replacement
Alarm Cancel Operation	Alarm cancel switch
Audible Alarm	Unique audible alarms for all major UPS, environmental and power conditions (see manual)

LED Indicators	6 LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status; LCD screen offers additional information and control options
SURGE / NOISE SUPPRESSION	
UPS AC Suppression Response Time	Instantaneous
EMI / RFI AC Noise Suppression	Yes
PHYSICAL	
Included Mounting Accessory Description	5 sets of adjustable 4 post rack rails included (one for each included 2U/3U module)
Installation Form Factors Supported with Optional Accessories	2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)
Optional Mounting Accessory Notes	Qty 5 2POSTRMKITHD required for 2 post rackmount installation; Qty 2 2-9USTAND required for tower installation
Primary Form Factor	Rackmount
UPS Power Module Dimensions (hwd, in.)	5.14 x 17.5 x 25.82
UPS Power Module Dimensions (hwd, cm)	13.1 x 44.5 x 65.6
Installed Whole System Maximum Rack Depth (in.)	32.5
Installed Whole System Maximum Rack Depth (cm)	82.6
Rack Height (U Spaces)	14
UPS Power Module Weight (lbs.)	43
UPS Power Module Weight (kg)	19.5
UPS Dimensions Details	Includes 2 SU8000RT3UPM UPS/Power modules and 2 BP240V10RT3U Battery packs; Listed weights and dimensions for UPS/Power module and Included battery pack each refer to a single unit
Stepdown Transformer Dimensions (hwd / in.)	3.5 x 17.5 x 21.8
Stepdown Transformer Dimensions (hwd / cm)	8.89 x 44.4 x 55.4
Stepdown Transformer Weight (lbs.)	72.6
Stepdown Transformer Weight (kg)	33
Included Battery Pack Dimensions (hwd / in.)	5.25 x 17.5 x 25
Included Battery Pack Dimensions (hwd / cm)	13.3 x 44.5 x 63.5
Included Battery Pack Weight (lbs.)	158.7
Included Battery Pack Weight (kg)	72
UPS Shipping Dimensions (hwd / in.)	36 x 40.25 x 51

UPS Shipping Dimensions (hwd / cm)	91.4 x 102.2 x 129.5
Shipping Weight (lbs.)	677
Shipping Weight (kg)	307.4
Cooling Method	Fans
UPS Housing Material	Steel
ENVIRONMENTAL	
Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius.
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius.
Relative Humidity	0 to 95%, non-condensing
AC Mode BTU / Hr. (Full Load)	5456
AC Economy Mode BTU / Hr. (Full Load)	2046
AC Mode Efficiency Rating (100% Load)	90%
AC Economy Mode Efficiency Rating (100% Load)	96%
Operating Elevation (ft.)	0-3000m (0 to 10,000 ft.)
Audible Noise	60 dBA at front side 1 meter
Operating Elevation (m)	0-3000 m
COMMUNICATIONS	
Communications Interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
Network Monitoring Port Description	Applications utilizing the optional network communications card require two SNMPWEBCARD accessories (install one per included power module); Additional contact closure support with optional RELAYIOCARD and RELAYIOMINI interface cards; RELAYIOMINI installation requires removal of panel containing USB ports
PowerAlert Software	Included
Communications Cable	USB, DB9 serial and EPO cables included
WatchDog Compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications
LINE / BATTERY TRANSFER	
Transfer Time	No transfer time (0 ms.) in online, double-conversion mode
Transfer Time (Economy Mode)	8 milliseconds typical power failure response in optional economy mode
Low Voltage Transfer to Battery Power (Setpoint)	100V
High Voltage Transfer to Battery Power (Setpoint)	300V
SPECIAL FEATURES	

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Cold Start (Startup in Battery Mode During a Power Failure)	Cold-start operation supported
Economy Mode Operation	Optional economy mode enables high efficiency bypass operation with a maximum output voltage variation of +/-10%. Double conversion mode is automatically restored as mains voltage varies beyond +/-10% with less than 1 millisecond transfer time between modes.
High Availability UPS Features	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries
Green Energy-Saving Features	High efficiency economy mode operation; Support for daily startup and shutoff; Schedulable daily hours of economy mode operation
CERTIFICATIONS	
UPS Certifications	Tested to UL1778 (USA); Tested to CSA (Canada); Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances)
UPS Certification Details	IEC 61000-4-5 1995 B Surge Immunity
WARRANTY	
Product Warranty Period (Worldwide)	2-year limited warranty
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	$250,000 Ultimate Lifetime Insurance

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